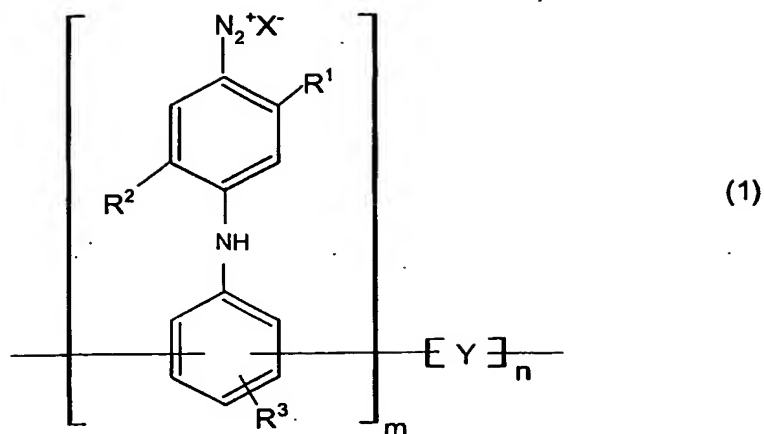


Claims

1. Process for the production of a negative working radiation-sensitive element comprising:
 - (1) providing an optionally pretreated substrate,
 - (2) applying a radiation-sensitive composition onto the substrate by means of a slot coater, wherein the radiation-sensitive composition comprises:
 - (a) at least one negative working diazo resin,
 - (b) at least one polymer with carboxyl groups soluble or swellable in an alkaline solution,
 - (c) a solvent mixture comprising:
 - (i) 2 to 9.9 wt.-% 1-methoxy-2-propanol,
 - (ii) 20 to 50 wt.-% of at least one ketone with a boiling point below 130°C,
 - (iii) 20 to 60 wt.-% of at least one alkanol with a boiling point below 120°C, and
 - (iv) 10 to 30 wt.-% ethyl lactate;and
 - (d) optionally one or more additives selected from stabilizing acids, colorants, plasticizers, surfactants, thickeners and exposure indicators;and
 - (3) drying.
2. Process according to claim 1, wherein the negative working diazo resin is a diazo resin of formula (1):



wherein R^1 and R^2 are each independently a hydrogen atom, alkyl or alkoxy,

R^3 is selected from a hydrogen atom, alkyl, alkoxy and the group $-COOR$,

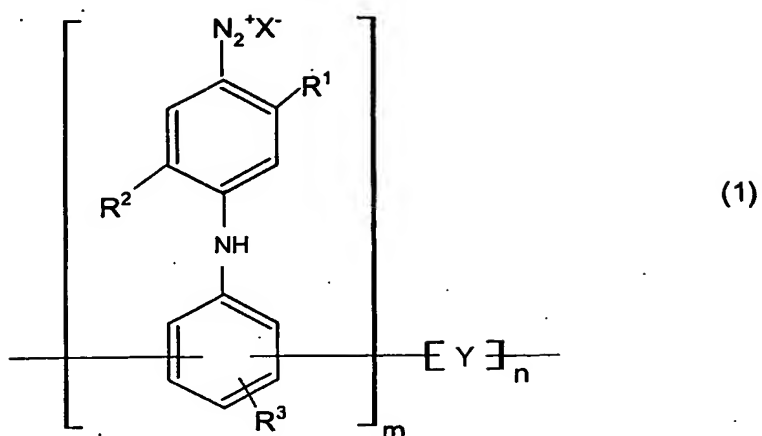
R is alkyl,

X^- is an inorganic or organic anion,

Y is a spacer group which is introduced into the diazo resin by co-condensation of a monomeric diazo compound with a compound selected from aliphatic aldehydes, aromatic aldehydes, phenol ethers, aromatic thioethers, aromatic hydrocarbons, aromatic heterocycles and organic acid amides, and m/n is 0.5 to 2.

3. Process according to claim 1 or 2, wherein the polymer with carboxyl groups soluble or swellable in an alkaline solution is a polyvinyl acetal copolymer with carboxyl groups.
4. Process according to any of claims 1 to 3, wherein the ketone (ii) is methyl ethyl ketone.
5. Process according to any of claims 1 to 4, wherein the alkanol (iii) is methanol.
6. Process according to any of claims 1 to 5, wherein the substrate is an aluminum plate or foil, which prior to coating was subjected to at least one treatment selected from graining, anodizing and hydrophilizing.

7. Process according to any of claims 1 to 6, wherein the solids content of the radiation-sensitive composition used is 1 to 10 wt.-%.
 8. Process according to any of claims 1 to 7, wherein the substrate is provided in the form of a web which web is coated at a rate of 10 to 120 m/min.
 9. Radiation-sensitive composition comprising:
 - (a) at least one negative working diazo resin,
 - (b) at least one polymer with carboxyl groups soluble or swellable in an alkaline solution,
 - (c) a solvent mixture comprising:
 - (i) 2 to 9.9 wt.-% 1-methoxy-2-propanol,
 - (ii) 20 to 50 wt.-% of at least one ketone with a boiling point below 130°C,
 - (iii) 20 to 60 wt.-% of at least one alkanol with a boiling point below 120°C,and
 - (iv) 10 to 30 wt.-% ethyl lactate;
and
 - (d) optionally one or more additives selected from stabilizing acids, colorants, plasticizers, surfactants, thickeners and exposure indicators.
10. Radiation-sensitive composition according to claim 9, wherein the ketone (ii) is methyl ethyl ketone.
11. Radiation-sensitive composition according to claim 9 or 10, wherein the alkanol (iii) is methanol.
12. Radiation-sensitive composition according to any of claims 9 to 11, wherein the negative working diazo resin is a diazo resin of formula (1)



wherein R^1 and R^2 are each independently a hydrogen atom, alkyl or alkoxy,

R^3 is selected from a hydrogen atom, alkyl, alkoxy and the group $-COOR$,

R is alkyl,

X^- is an inorganic or organic anion,

Y is a spacer group which is introduced into the diazo resin by co-condensation of a monomeric diazo compound with a compound selected from aliphatic aldehydes, aromatic aldehydes, phenol ethers, aromatic thioethers, aromatic hydrocarbons, aromatic heterocycles and organic acid amides, and
 m/n is 0.5 to 2.

13. Radiation-sensitive composition according to any of claims 9 to 12, wherein the polymer with carboxyl groups soluble or swellable in an alkaline solution is a polyvinyl acetal copolymer.
14. Radiation-sensitive composition according to any of claims 9 to 13, wherein the solids content of the photosensitive composition used is 1 to 10 wt.-%.
15. Radiation-sensitive element, obtainable by a process according to any of claims 1 to 8.
16. Use of a solvent mixture comprising:
 - (i) 2 to 9.9 wt.-% 1-methoxy-2-propanol,
 - (ii) 20 to 50 wt.-% of at least one ketone with a boiling point below 130°C,
 - (iii) 20 to 60 wt.-% of at least one alkanol with a boiling point below 120°C, and

(iv) 10 to 30 wt.-% ethyl lactate;
for producing a radiation-sensitive element.

17. Use according to claim 16, wherein the radiation-sensitive element is produced using a slot coater.